

of the head and pronotum. The wings are usually yellow, often pale yellowish-white, sometimes orange or even red.

This is our rarest Oedipodine, and the only one which I have not met in the field in an extended experience in collecting the New England locusts. Reported from Norway, Me., by Smith, and eastern Mass. by Scudder, nothing

is recorded concerning the date of capture or character of the locality where found. It probably occurs, however, in localities similar to those frequented by its congener. Numerous specimens which I refer to this species were found by Mr. S. W. Denton in Ohio and Illinois in midsummer.

THE LARVA OF LYCOMORPHA PHOLUS.

BY HARRISON G. DYAR, NEW YORK.

1839. Harris, Silliman's Journ. Sci. Arts. XXXVI, 318.

1862. Harris, Ins. Inj. veg. 341.

1869. Melsheimer, Harris' ent. corresp. p. 112.

1882. Packard, Papilio III, 181.

1896. Dyar, Proc. Boston soc. nat. hist., XXVII, 136.

Harris states that the larva lives on lichens growing on rocks.

Melsheimer found them on lichens on the trunks of hickory trees.

The full grown larvae occurred to me not uncommonly on an old stone fence at Jefferson Highlands, N. H. in the middle of June. Eggs were obtained a month later.

Egg. Laid singly, adherent. Oblately spheroidal, the lower half more flattened than the upper, both well rounded; a little elongated in one diameter, but only just perceptible. No true reticulations, but the surface is distinctly flattened in hexagonal areas, the edges of which are not defined into elevations, but form simple angles of the surface. These areas are rather large in proportion to the egg, regular. Surface a little granular. Color shining dark bluish green. Diameter .5 mm.

Stage I. Head bilobed, black; width .3 mm. Body all whitish, the hairs long and pale; tubercles concolorous. The hairs are barbed and arise singly from the small

tubercles, normal, subprimaries absent. On the thorax seta ii b is distinctly present, not weak; i a, i b and ii a in line, rather remote. The head is blackish with sutures inky black. Length of larva 1.5 mm.

Mature larva. Gray, dotted with pale green with thin, very long, blackish hairs. Head bilobed, clypeus large, lower part pale; brown with two pale green, narrow, transverse, irregular lines; hairs short, white; width 1.5 mm. Body rather flattened, brown gray with many irregularly triangular, transversely streaked patches; a geminate, rather large, anterior segmental, dorsal, pale yellow one on joints 5 to 11 is most distinct, the others whitish, smaller and confused. Legs pale, two setae on the obscurely corneous plate. I have described the other setae.

The spottings seem to represent broken ad-dorsal, lateral, suprastigmatal and sub-stigmatal lines. The coloration closely resembles the lichen covered rocks, so that the larvae are only seen on close examination.

Cocoon. A fine arched thin web on one side of a stone.

Pupa. Delicate, thin shelled, pale brown. Smooth, not tapering much till the anal segments, compact, motionless, though two incisures stretch out somewhat when the moth emerges. Anal end smooth, no trace of cremaster. Cases compact, the leg and an-

tennae cases firmly united in one piece at emergence; basal parts of first legs entirely concealed, the maxillae reaching down the center to the tip of case. Abdominal segments punctured.

THE BUTTERFLIES OF HILDESHEIM.

OUR countryman, Mr. A. R. Grote, has signalized his appointment to the charge of the Roemer Museum in Hildesheim by establishing an issue of papers under the title *Mittheilungen*. These appear by numbers in imperial octavo, very handsomely printed and illustrated. No. 8 is concerned with the butterflies of Hildesheim and is by Mr. Grote himself, as four previous numbers have been (44 pp., 4 pl.) Its subject would not much interest American naturalists did the paper not go far beyond what the title indicates, being mostly concerned with a general classification of butterflies (or at least those of Hildesheim), which in several points differs materially from classifications in vogue, if any can be called in vogue in this time of flux.

Butterflies are first divided into two great groups, the Parnassi-Papilionidae and the

Pieri-Hesperiidae. The first contains the two groups indicated by its title, regarded as families. The second includes ten families, which in their order downward are Pieridae, Nymphalidae, Agapetidae (Satyridae), Limnadiidae (Danaiidae), Libytheidae, Nemeobiidae (*Nemeobius lucina*), Riodinidae (Erycinidae—non European), Lycaenidae, Hesperiidae and Megathymidae (Megathymus—an American type). The last five families Grote looks upon as an early and simultaneous offshoot from the Pieri-Hesperidian stem, which last culminated in the Pieridae, but on its way thereafter threw off the branch which included the remaining families, in the order Libytheidae, Limnadiidae and Agapetidae.

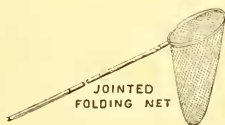
The scheme is based solely on the wing-venuration and has its merits and demerits on this ground. The most striking innovation is the primary subdivision which ignores previous dichotomy by leaving the Hesperiidae in conjunction with others; a minor one is the separation, with family signification, of *Nemeobius* from the Riodinidae; it shows the length to which one may go in discussing classification from a single standpoint.

Guide to the Genera and Classification of the Orthoptera of North America north of Mexico. By SAMUEL H. SCUDDER. 90 pp. 8^o.

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